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Remarks

This filing is responsive to the Office Action of September 21, 2006. Re-examination and reconsideration of **claims 1-27** is respectfully requested.

Summary of The Office Action

Claims 11-19 were rejected under 35 U.S.C. §101 as being directed to nonstatutory subject matter.

Claims 1-27 were rejected under 35 U.S.C. §103(a) as being unpatentable over McIntyre (2003/0063305) in view of Quinn (2004/0006616).

Claims 4, 13, and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over McIntyre (2003/0063305) in view of Quinn (2004/0006616) as applied to claims 1, 11 and 20 above, and further in view of Erlington (2003/0233544).

The Claims Describe Statutory Subject Matter

Claims 11-19 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Claim 11 recites "an article of manufacture embodied in a computer-readable medium". The Office Action of April 7, 2006 notes that "on page 2 of the specification a computer-readable medium is defined as 'signals and carrier wave/pulse'". (Office Action, page 3). The Office Action of September 21, 2006 provides "Applicants' arguments filed on July 6, 2006, with respect to the rejection of claim 11 under 35 USC 101 have been fully considered by they are not persuasive." (Office Action at page 2). The Office Action further provides:

> It is noted that Applicants reply on the 1996 PTO Examination Guidelines For Computer-Related Inventions in an attempt to rebut the rejection of claim 11 as being nonstatutory under 35 USC 101. It appears that Applicants rely on an outdated version of the

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Guidelines in making his decisions and Examiner would like to point out that there have been several revisions and amendments to the Guidelines since 1996. The following is provided as a later version of the Guidelines in assisting the applicants with Patent Subject Matter Eligibility.
See http://www.uspto.gov/web/offices/com/sol/og/2005week47/patgupa.htm)

As noted in Amendment B filed on July 6, 2006, Applicants were aware of the Interim Guidelines: "Applicant assumes that the basis for the rejection may set from the Interim Guidelines for Subject Matter Eligibility dated 22 November 2005." (Amendment B, page 9). However, Applicants note that subsequent to the filing of Amendment B, portions of the Interim Guidelines have been incorporated into the MPEP. (See, MPEP §§2106, 2106.01 and 2106.02). Significantly, the portion of the Interim Guidelines related to Electro-Magnetic Signals (Interim Guidelines, Annex IV Computer-Related Nonstatutory Subject Matter (c) Electro-Magnetic Signals) has not been incorporated in the MPEP. Thus, to the extent that the Examiner was relying on Annex IV(c) to support the rejection of claim 11, the rejection is baseless and should be withdrawn.

Accordingly, the Examiner is again requested to provide authority for this rejection. Contrary to the Office Action assertion, the MPEP, and specifically, §2106, as controlled by Federal Circuit case law reveal that carrier waves are statutory subject matter.

Furthermore, the rejection is conclusory. No substantive law and no analysis of claim limitations were provided to establish a proper §101 rejection. The rejection thus cannot stand.

As such, simply citing to the Interim Guidelines does not satisfy the obligations and requirements for establishing a proper §101 rejection. There must be some articulated reasoning with some rational underpinning to support the legal conclusion. No substantive law has been cited and no rationale has been articulated to support the rejection. The rejection thus cannot stand and should be withdrawn.

The MPEP (as recited in MPEP §§2106, 2106.01 and 2106.02) provides guidance for how to examine computer-readable medium claims. For example, MPEP §2106.01 provides:

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> "Descriptive material can be characterized as either 'functional descriptive material' or 'nonfunctional descriptive material'. In this context, 'functional descriptive material' consists of data structures and computer programs which impart functionality when employed as a computer component."

<div align="center">*   *   *</div>

> "[m]erely claiming nonfunctional descriptive material, i.e. abstract ideas, stored on a computer-readable medium, in a computer or on an electromagnetic carrier signal does not make it statutory."

<div align="center">*   *   *</div>

> "[A] claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory."

In this application, the rejected claims recite processor executable instructions that cause a processor to act, function, and/or operate in a specific manner. It has been judicially recognized that such instructions transform a device from a general purpose machine to a special purpose machine, which has long been recognized as statutory subject matter. Thus, following MPEP §2106.01, the claims are statutory and this rejection should be withdrawn.

Further, using MPEP §2106 as a basis, the test advanced is the "practical application" test. The practical application test is defined as follows:

> The claimed invention as a whole must be useful and accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. (See MPEP §2106(A))

Applying the practical application test to the present claims, the invention of the present claims produces a useful, concrete and tangible result and are thus patentable subject matter.

Independent claim 11 is a computer-readable medium claim. MPEP §2106.01 provides:

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When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory).

Present claim 11 recites a computer-readable medium with executable instructions where the use of technology permits the function of the material to be realized and are thus statutory. The claimed instructions cause a processor to determine whether a received access request is permissible based on a contention status. Furthermore, under the practical application test, the recited elements clearly provide a useful, concrete and tangible result.

The Office Action on page 3 rejects claim 11 since the specification states that the computer-readable medium can include a transmission media or carrier wave, which the Examiner states are intangible embodiments. The Interim Guidelines do not state that such media are per se intangible and per se non-statutory. Applicant believes the appropriate test needs to be applied to the claim as a whole. If that test is the "Practical Application test" then it should be applied to the claim as explained above. Otherwise, a computer-readable medium claim is statutory. See In re Beauregard, 53 F. 2d 1583, 35 USPQ 2d 1382 (Fed. Cir. 1995), and In re Lowry, 32 F. 3d 1579, 32 USPQ 2d 1031 (Fed. Cir. 1994).

The burden is on the Patent Office to set forth a prima facie case of unpatentability (MPEP §2106 IV(B)). The appropriate test must be applied and "when evaluating the scope of a claim, every limitation in the claim must be considered. USPTO personnel may not dissect a

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claimed invention into discrete elements and then evaluate the elements in isolation." (MPEP §2106 II (C)). Merely picking the term "signals" or "carrier wave/pulse" from the specification and rejecting the entire claim is a improper dissection of elements and an improper evaluation in isolation. Thus, the rejection is improper and should be withdrawn.

Therefore, independent claim 11 is directed to subject statutory matter and the §101 rejection of claim 11 and dependent claims 12-19 should be withdrawn

The Claims Patentably Distinguish Over the References of Record

<u>Independent Claim 1</u>

Claim 1 recites a storage access manager configured to coordinate access to the storage device from a plurality of client devices that communicate with a storage device using at least one uncoordinating communication protocol. The specification of the subject application provides an example as "uncoordinating communication protocols include protocols from different devices that may compete for access to the storage device 105 where at least one protocol does not provide notice of the access to the other protocol or device". (Paragraph [0016]). McIntyre and Quinn fail to teach or suggest this feature and thus claim 1 patentably distinguishes over the references of record.

McIntyre teaches a document production system for setting, controlling, querying and saving printer control settings. (McIntyre, Abstract). The document production system 100 includes a printer control program 150 resident on, or accessible to, a computer 110, or computing device. (McIntyre, paragraph [0021]). One or more printers 120, or printing devices, may be in operable communication with the computer 110. (McIntyre, paragraph [0021]). The printers 120 may be controlled by the printer control program 150 using computer 110. (McIntyre, paragraph [0021]). McIntyre explains that printers 120 communicate with computer 110 and other computing devices using serial cables, parallel cables, SCSI ports, USB ports, IR ports, or other suitable wired or wireless communication technologies. (McIntyre, paragraph [0023]). Individual printers 120 may be connected, or accessible to, a single computing device,

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or multiple computing devices, which make up the network system. (McIntyre, paragraph [0023]).

The Office Action provides "McIntyre does not specifically [sic] client devices that communicate with the storage device using at least one uncoordinating communication protocols as required." (Office Action, page 3). Quinn does not cure the shortcomings of McIntyre.

Quinn teaches techniques for managing a storage environment. (Quinn, Abstract). Quinn further provides "[e]mbodiments of the present invention handle the necessary translations between the high-level commands and the low-level storage array-specific commands or protocols." (Quinn, Abstract). The Office Action provides:

> Quinn discloses client devices that communicate with the storage device using at least one uncoordinating communication protocol [clients may use different message types/formats and communication protocols to communicate requests to command requests to command servers 208; par. 47; See also claim text 3] to provide improved techniques for managing storage environments [par. 7].
> (Office Action, pages 3-4).

The portion of Quinn relied upon in the Office Action discloses "different message types/formats and communication protocols". (Quinn, [0047]). Applicants' representative respectfully submits that Quinn does not teach or suggest coordinating access to the storage device from a plurality of client devices that communicate with a storage device using at least one uncoordinating communication protocol.

Since claim 1 recites features not disclosed or suggested by the references, claim 1 patentably distinguishes over the references of record and is now in condition for allowance. Additionally, dependent claims 2-10 also patentably distinguish over the references and are in condition for allowance.

Independent Claim 11

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Claim 11 recites second processor executable instructions for causing a processor to determine a contention status between the current access state and a received access request for accessing the storage device based on a contention logic, the contention logic defining rights for simultaneous access to the storage device from the at least first communication protocol and the second communication protocol where the at least first communication protocol does not provide notice of an access to the second communication protocol, and, third processor executable instructions for causing a processor to determine whether the received access request is permissible based on the contention status. (Emphasis added). McIntyre and Quinn fail to teach or suggest this feature and thus claim 11 patentably distinguishes over the references of record.

The Office Action provides "McIntyre does not specifically teach second processor executable instructions for causing a processor to determine a contention status between the current access state and a received access request for access request for accessing the storage device based on a contention logic, the contention logic defining rights for simultaneous access to the storage device from the at least first communication protocol and the second communication protocol as required." (Office Action, page 6). Applicants' representative respectfully submits that Quinn does not teach or suggest determining a contention status between the current access state and a received access request for accessing the storage device based on a contention logic, the contention logic defining rights for simultaneous access to the storage device from the at least first communication protocol and the second communication protocol where the at least first communication protocol does not provide notice of an access to the second communication protocol.

Quinn teaches techniques for managing a storage environment. (Quinn, Abstract). Quinn further provides "[e]mbodiments of the present invention handle the necessary translations between the high-level commands and the low-level storage array-specific commands or protocols." (Quinn, Abstract). The Office Action provides:

> Quinn, in addition to disclosing an article of manufacture embodied in a computer-readable medium for use in an image forming device having a storage device accessible by at least a first communication protocol and a second communication protocol

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[par. 9]; and third process executable instructions for causing a processor to determine whether the received access request is permissible based on the contention status [¶ 69]; also discloses a second processor executable instructions for causing a processor to determine a contention status between the current access state and a received access request for accessing the storage device based on a contention logic, the contention logic defining rights for simultaneous access to the storage device from the at least first communication protocol and the second communication protocol [par. 52, 63] to allow exclusive access or locking to the storage device (par. 52).

(Office Action, page 7).

The portion of Quinn relied upon in the Office Action relates to a single "AddVolume" command. (See, Quinn, Fig. 6, [0052], [0060]-[0065]). The translation layer 504 authenticates and authorizes the requested command and translates it to a common standard format. (Quinn, [0062]). Agent dispatcher 516 validates the command request and invokes an AddVolume agent 518 to process the command request. (Quinn, [0062]). The AddVolume agent 518 determines the various operations corresponding to the requested command. (Quinn, [0063]). AddVolume agent 518 invokes an API provides by transport layer 508. (Quinn, [0063]). The transport layer 508 is configured to communicate with storage array 216 using a communication protocol understood by storage array 216. (Quinn, [0064]).

Transport layer 508 receives responses/results of the command communicated to the storage array 216. (Quinn, [0065]). Transport layer 508 communicates these responses to agent layer 506 which accumulates the results and responses received from the transport layer 508. (Quinn, [0065]). Based upon the results and responses received from transport layer 508, agent layer 506 generates a result/response that is communicated to translation layer 504 which then communicates the response to ERM application 212. (Quinn, [0065]).

In particular, Quinn does not teach or suggest simultaneous access to the storage device from the at least first communication protocol and the second communication protocol where the at least first communication protocol does not provide notice of an access to the second communication protocol. Further, Quinn does not teach or suggest contention logic defining

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rights for simultaneous access to the storage device from the at least first communication protocol and the second communication protocol

Since claim 11 recites features not disclosed or suggested by the references, claim 11 patentably distinguishes over the references of record and is now in condition for allowance. Additionally, dependent claims 12-19 also patentably distinguish over the references and are in condition for allowance.

<u>Independent Claim 20</u>

Claim 20 recites providing access to the storage device in accordance with multiple communication protocols where at least one of the communication protocols does not provide notice of an access to the other protocols, and, coordinating multiple access requests to the storage device based on contention rules that define permissibility of simultaneous access requests from the multiple communication protocols. McIntyre and Quinn, individually and/or in combination, fail to teach or suggest this feature and thus claim 20 patentably distinguishes over the references of record.

The Office Action provides "[a]s per claim 20, the rationale in the rejections of claim 1, 4 and 11 is herein incorporated." (Office Action, page 10). As discussed above, McIntyre does not teach or suggest providing access to a storage device in accordance with multiple communication protocols where at least one of the communication protocols does not provide notice of an access to the other protocols. Further, McIntyre does not teach or suggest coordinating multiple access requests to the storage device based on contention rules that define permissibility of simultaneous access requests from the multiple communication protocols. Quinn does not cure the shortcomings of McIntyre.

Quinn teaches techniques for managing a storage environment. (Quinn, Abstract). Quinn further provides "[e]mbodiments of the present invention handle the necessary translations between the high-level commands and the low-level storage array-specific commands or protocols." (Quinn, Abstract).

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As discussed above, the portions of Quinn relied upon in the Office Action relate to a single "AddVolume" command. (See, Quinn, Fig. 6, [0052], [0060]-[0065]). Quinn does not teach or suggest providing access to the storage device in accordance with multiple communication protocols where at least one of the communication protocols does not provide notice of an access to the other protocols, and, coordinating multiple access requests to the storage device based on contention rules that define permissibility of simultaneous access requests from the multiple communication protocols.

Since claim 21 recites features not disclosed or suggested by the references, claim 21 patentably distinguishes over the references of record and is now in condition for allowance. Additionally, dependent claims 22-27 also patentably distinguish over the references and are in condition for allowance.

Conclusion

For the reasons set forth above, claims 1-27 patentably and unobviously distinguish over the references of record and are now in condition for allowance. An early allowance of all claims is earnestly solicited.

Respectfully submitted,
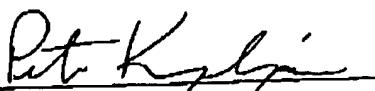
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